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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LANCE R. CARLSON, JEFFREY L. WHALEY, and
ROBERT L. METZ

Appeal 2008-3338
Application 09/224,202
Technology Center 2600

Decided: December 22, 2008

Before KENNETH W. HAIRSTON, JOSEPH L. DIXON, and
JOHN A. JEFFERY, *Administrative Patent Judges*.

DIXON, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE

A Patent Examiner rejected claims 87, 88, 92, 93, 97, 98, 102, 103, 108-112, 115, 118-122, 125, and 126. The Appellants appeal therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

A. INVENTION

The invention at issue on appeal relates to method and apparatus for detecting head flying height in a disk drive. (Spec. 1.)

B. ILLUSTRATIVE CLAIM

Claim 87, which further illustrates the invention, follows.

87. A disk drive, comprising:

a disk having a plurality of concentric tracks for storing data, the tracks including a first track having a first data pattern with a first frequency and a second data pattern with a second frequency that is higher than the first frequency, wherein the first and second data patterns are located in separate non-overlapping circumferential portions of the first track;

a head for reading data from and writing data to the disk; and

a detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns while the head is at a substantially constant flying height.

C. REFERENCES

The Examiner relies on the following references as evidence:

Gyi	US 4,146,911	Mar. 27, 1979
Brown	US 4,777,544	Oct. 11, 1988

D. REJECTIONS

The Examiner makes the following rejections.

Claims 87, 88, 93, 97, 98, 103, 110, 111, 120, and 121 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Brown.

Claims 92, 102, 108, 109, 112, 115, 118, 119, 122, 125, and 126 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of Gyi.

II. ISSUE

Does Brown teach a "detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns while the head is at a substantially constant flying height," as claimed, and does Brown teach the claimed first and second patterns located in "non-overlapping *circumferential* portions of the first track"?

III. PRINCIPLES OF LAW

35 U.S.C. § 102

"[A]nticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim" *In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986) (citing *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1457 (Fed. Cir. 1984)). "[A]bsence from the reference of any claimed element negates anticipation." *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565, 1571 (Fed. Cir. 1986).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent

applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The properly interpreted claim must then be compared with the prior art.

Appellants have the opportunity on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).

In rejecting claims under 35 U.S.C. § 102, "[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation." *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1375-76 (Fed. Cir. 2005) (citation omitted).

35 U.S.C. § 103(a)

Section 103 forbids issuance of a patent when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1734 (2007).

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art," *Id.* at 1739, and discussed circumstances in which a patent might be determined to be obvious. *KSR*, 127 S. Ct. at 1739 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966)). The Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield

predictable results." *Id.* The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 1740.

The Federal Circuit recently recognized that "[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (citing *KSR*, 127 S. Ct. 1727, 1739 (2007)). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Id.* at 1162 (citing *KSR*, 127 S. Ct. at 1740-41).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

IV. ANALYSIS

From our review of the Examiner's rejection at pages 3-7 of the Answer, we find that the Examiner has set forth sufficient initial showings of anticipation and obviousness. Therefore, we look to Appellants' Briefs to show error in the Examiner's initial showings.

The first of Appellants' main contentions is that Brown requires measurements at a first flying height and adjusting the flying height to a reference clearance, such as, zero clearance and performing measurements a

second time. Appellants contend that these two sets of data are then used by Brown to determine the unknown flying height. Appellants contend that this approach is precluded by the instant claim language. (App. Br. 7-8). We disagree with Appellants' conclusion, and we find that the third embodiment of Brown using first and second wavelengths at a first height and a set of measurements at a second height teaches a "detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns while the head is at a substantially constant flying height," as claimed. In Brown, we have "first and second data patterns while the head is at a substantially constant flying height" which are the claimed first and second wavelengths at the first height. The fact that Brown uses his additional data, at a second height, does not disqualify the first and second wavelengths at a first height. Furthermore, Appellants' claim language does not require that the measurements at the first height are all that is used in the determination/detection. Therefore, we find Appellants' arguments do not show error in the Examiner's initial showing of anticipation.

Appellants' second contention is that independent claims 87 and 97 recite "the first and second data patterns are located in separate non-overlapping circumferential portions of the track." Here, Appellants have not identified in the original Specification any support or definition for "first and second data patterns are located in separate non-overlapping circumferential portions." We find the Examiner's reliance upon the interleaved signals as taught by Brown and admitted by Appellants at page 8 of the Brief to be a reasonable interpretation since the disk is spinning. Therefore, the pattern would be circumferentially positioned and non-

overlapping if the data were interleaved. Here, we find the Examiner's interpretation of the teachings of Brown to be reasonable, and we look to Appellants' arguments in the Brief to show error in the Examiner's interpretation. Appellants merely argue that Brown "fails to disclose first and second signals with first and second frequencies used for fly[ing] height detection be placed in separate non-overlapping circumferential portions of a track." (App. Br. 8). We find Appellants' argument is not persuasive of error in the Examiner's initial showing of anticipation since Appellants' argument is not commensurate in scope with the express language recited in independent claims 87 and 97.

Specifically, the claimed invention, as recited in independent claims 87 and 97, does not set forth first and second signals (plural signals). Therefore, Appellants' argument is not persuasive of error. Furthermore, Appellants have not shown an alternative interpretation than the one set forth by the Examiner where the teachings of Brown as applied by the Examiner would not be reasonable.

With respect to Appellants' argument in the Reply Brief at pages 3-4, we do not find our prior decisions discussion of different claim language to be persuasive and controlling with respect to the amended claim language on appeal.

Appellants further contend that Brown does not define the term "interleaved" and the Examiner has not offered any explanation of how interleaved wavelengths described in Brown disclose first and second patterns on circumferential portions of the track as recited in independent claims 87 and 97. (Reply Br. 4). Appellants also contend that Brown fails to disclose the claimed first and second patterns located in "non-overlapping

circumferential portions of the first track." We find Appellants' argument to be unpersuasive of error in the Examiner's initial showing of anticipation since we find the tracks in Brown to be circumferential. Therefore, the data would also be circumferential. Appellants have shown no error therein. Therefore, we do not find Appellants' argument persuasive of error in the Examiner's initial showing of anticipation. Since Appellants have not shown error in the Examiner's initial showing of anticipation, we will sustain the rejection of independent claims 87 and 97. We similarly sustain the rejection of dependent claims 88, 93, 98, 103, 110, 111, 120, and 121 grouped with claims 87 and 97 by Appellants, since Appellants have not separately argued those claims.

35 U.S.C. § 103(a)

Appellants rely upon the same arguments advanced with respect to the rejection under 35 U.S.C. § 102. (App. Br. 9). Since Appellants have not separately argued the rejection under 35 U.S.C. § 103, we will sustain the rejection for the same reasons discussed above. Therefore, we sustain the rejection of dependent claims 92, 102, 108, 109, 112, 115, 118, 119, 122, 125, and 126 as being obvious over Brown in view of Gyi.

V. CONCLUSION

Based upon the above analysis, we find that Brown teaches the claimed "detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns while the head is at a substantially constant flying height," and Brown teaches the claimed first and second patterns located in "non-

overlapping *circumferential* portions of the first track." For the aforementioned reasons, the Examiner has a proper initial showing of anticipation and obviousness which Appellants have not shown error therein.

VI. ORDER

We affirm the anticipation rejection of claims 87, 88, 93, 97, 98, 103, 110, 111, 120, and 121; and the obviousness rejection of claims 92, 102, 108, 109, 112, 115, 118, 119, 122, 125, and 126.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

rwk

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